

WHAT IS CLAIMED IS:

1 1. A system for modifying digital images, the system comprising means for
2 maintaining an association between an image portion and a list of operations used to create
3 the image portion.

1 2. A method for processing an image in an application program, wherein
2 the application program executes in a digital system, wherein the digital system includes a
3 user input device, the method comprising
4 accepting signals from the user input device to cause one or more operations
5 to modify the image to create a modified image;
6 creating a list of at least one of the operations used to create the modified
7 image; and
8 storing the list in association with the modified image.

9
1 3. The method of claim 2, further comprising
2 retrieving the modified image;
3 retrieving the list; and
4 associating the list with the modified image.

1 4. A method for modifying a diagram of connected nodes displayed on a
2 display device in a digital system, wherein the nodes are connected with elongated
3 connectors, wherein the digital system includes a user input device and a processor, the
4 method comprising

5 accepting first signals from the user input device to remove an end of a
6 connector from a first node;

7 accepting second signals from the user input device to move the end of the
8 connector in proximity to a second node;

9 using the processor to indicate that the second node has been automatically
10 selected;

11 accepting third signals from a user input device to indicate that the end of the
12 connector should be connected to the second node; and

13 using the processor to automatically connect the end of the connector to the
14 second node.

1 5. A method for joining nodes in a diagram, wherein the diagram includes
2 a first node and a second node, the method comprising, the method comprising

accepting first signals from the user input device to move the first node into visible contact with the second node; and
in response to the moving of the first node into visible contact with the second node, performing the step of using the processor to create a connection between the first and second nodes.

6. The method of claim 5, wherein the connection is created at the approximate points of contact of the first and second nodes.

7. The method of claim 5, wherein a visual indicator indicates that contact has occurred.

8. The method of claim 5, wherein an audible indicator indicates that contact has occurred.

9. The method of claim 5, further comprising
moving the first node into proximity with the second node to within a predetermined threshold distance; and
in response to the step of moving the first node into proximity, performing the step of using the processor to create a connection between the first and second nodes.

10. A method for modifying a diagram of nodes in a digital processing system, wherein the diagram includes nodes coupled by connectors, wherein a node represents an operation performed on an image portion, wherein a complex node represents an operation that includes sub-operations, the method comprising
accepting signals from a user input device to expand a complex node; and
in response to the step of accepting signals to expand a complex node, performing the step of replacing the complex node in the diagram with one or more nodes corresponding to sub-operations of the operation represented by the complex node.

11. The method of claim 10, wherein the operations are image processing operations.

12. A method for modifying parameter values, the method executing in a digital system, the digital system including a user input device, the method comprising
accepting signals from the user input device to define a freehand line drawing;
and
using the freehand line drawing to modify at least one parameter value.

13. The method of claim 12, wherein the freehand line drawing is used to modify the at least one parameter value as a function of time.

14. The method of claim 12, wherein the freehand line drawing is used to modify the at least one parameter value as a function of space.

15. A method for displaying image information on a display device coupled to a processor and user input device, the method comprising

- using the processor to display a main image on the display device;
- generating modified images;
- accepting signals from the user input device to select a plurality of modified images; and
- in response to the step of accepting signals, performing the step of displaying the plurality of selected images on the display device adjacent to the main image.

16. A method for displaying information about an image in a image processing system, the image processing system including a processor coupled to a display device and to a user input device, the method comprising

using the processor to display an image;

accepting signals from the user input device to select a portion of the image;

and

using the processor to display a list of operations that contributed to the generation of the selected portion of the image.

17. The method of claim 16, wherein the image portion is a single pixel.

18. The method of claim 16, further comprising
accepting signals from the user input device to identify an operation in the list;
using the processor to regenerate the image using operations in the list other
than the identified operation; and
displaying the regenerated image on the display device.

19. A method for saving a setting in a computer user interface, the method executing in a digital processing system including a processor coupled to at least one user input device and to a display device, the processor executing a user interface including controls for changing parameter values, the method comprising

accepting signals from a user input device to provide a new parameter value by using a first control;

- accepting signals from a user input device to define a first label;
- associating the label with the new parameter value and with the first control;
- storing the label in a list of labels associated with the first control;
- using the processor to display the list of labels;

11 accepting second signals from a user input device to select the first label; and
12 in response to the step of accepting second signals, performing the step of
13 using the new parameter value.

1 20. A method for using a three-dimensional look-up table in a digital storage
2 device to obtain a result, the method comprising

3 selecting a first resolution;

4 using the first resolution to define subcubes in a mapping space,

5 wherein the subcubes have dimensions based on the first resolution;

6 assigning a single output value to each subcube;

7 generating a look-up table in accordance with the subcubes;

8 receiving a first set of three values;

9 using the mapping space to map the first set of three values to a point
10 in the mapping space, wherein if the point is within a given subcube then the result is the
11 assigned output value of the given subcube; and

12 regenerating the look-up table at a different resolution.

1 21. The method of claim 20, wherein the mapping space is multi-dimensional
2 with a number of dimensions greater than 3.

1 22. The method of claim 20, wherein the mapping space is non-rectangular.

1 23. The method of claim 20, wherein multiple subcube resolutions are used
2 for a single mapping space.